To: enhmwk@okstate.edu[enhmwk@okstate.edu]
From: Natalie Davis
Sent: 2017-06-30T23:07:21-04:00
Importance: Normal
Subject: (b)(6)
Received: 2017-06-30T23:07:41-04:00
20170630170720638.tif

See attached test and with times.

Thanks!
Natalie

Sent from my iPhone

Begin forwarded message:

From: Natalie D <natalie_davis@ios.doi.gov>
To: Natalie D <natalie_davis@ios.doi.gov>
Subject: Message from "RNP002673AF75FE"

This E-mail was sent from "RNP002673AF75FE" (MP C5503).

Scan Date: 06.30.2017 17:07:20 (-0400)

Proctor/Testing Center: Please enter:		
Test Date: 6/30/17	Initial: AD	Station #
Time Started: 2:15	Initial: AD	
Time Finished: 3:05	Initial: AD	

PROCTORS: Please either email or fax the completed quiz to enhmwk@okstate.edu or 405.744.5033. Please keep the original copy for your records, the instructor may request it at a later date. (All copies need to remain in your file until a month after the semester ends.)

STUDENT(S), INSTRUCTOR, & TEST DETAILS

Exam Type: ☐ Student Disability Services (SDS) Exam ■ OSU Course Exam (non-SDS)

Student Name(s): See email

Course Name: Engr Economic Anal & Econ Decision Analysis

Course Prefix/Number: IEM 3503/3513

Test/Exam Title: Test 3

Test Date (as arranged with student): 6/28-30/17

Test Time (as arranged with student): 8:00 - 5:00

Instructor Name: Terry Collins

Other Institution Name: OSU

Instructor Phone: 405-744-6055

Instructor Email: terrry.collins@okstate.edu

Department Phone: 405-744-5148

Is the Test ■ **Paper-Based or** ☐ **Online?**

Is Test Date flexible? ■ **Yes** ■ **No**

Is Test Time flexible? ☐ **Yes** ☐ **No**

Class Time allowed for test: _____ **Hour(s) and** 75 **Minutes**

TEST ADMINISTRATION INSTRUCTIONS

Testing materials required/allowed by the instructor:

■ Notes	☐ Orange Scantron	☐ Graphing Calculator	☐ English Dictionary
■ Textbook(s)	☐ Green Scantron	☐ Non-graphing Calculator	☐ Language Dictionary
☐ Scratch Paper	■ Mechanical Pencil	☐ Computer Use	☐ LockDown Browser
☐ Blue Book	☐ Highlighters	☐ Ruler/Straight Edge	☐ Colored Pencils

Additional Instructions, Directions, Requirements, Passcodes, or Other Information:

Attach notes (8 1/2 X 11) to test when submitted for grade.
No cell phones or back packs in testing area.
See test for complete instructions

Statement of Academic Honesty

The following form is standard procedure for an exam that may be offered multiple times. Read the material below, then complete the form and return it with your completed exam. Your exam will not be graded unless a completed copy of this form is on file.

Course: IEM 3503/3513 Summer 2017

Test: Weekly Test # 3

There are others who may be taking this exam or a similar exam at a later date. You are in no way to have any form of direct or indirect communications regarding this exam with anyone. If someone asks something as simple as "How was it?" your best response is "I cannot talk about the exam." Any violation of the letter or spirit of the above will be treated as an act of academic dishonesty.

By completing the information below, I acknowledge that I have read and understood the Statement of Academic Honesty above.

Name (signature): [redacted]

Name (print): [redacted]

Student ID: [redacted]

Today's Date: 6/30/17

NAME: maximilien Barton

DR. COLLINS

TEST #3C (ON-LINE SECTION ONLY)
TIME LIMIT: 75 MINUTES
TEST TIME WINDOW: WEDNESDAY, JUNE 28, 2017 (8:00AM) TO FRIDAY JUNE 30, 2017 (5:00PM)

(OPEN BOOK, ONE PAGE OF NOTES – 8 ½ X 11)
Attach Notes Page to back of Test when submitted for grade
ABSOLUTELY NO CELL PHONES OR BACKPACKS IN TESTING AREA!!!

Multiple Choice Questions: For each Multiple Choice question below select the most nearest answer from choices A – D. Properly write your selected answer in the blank beside the corresponding question. Each M/C question is worth 10 points each.

(10) A 1. **A $10,000 face value bond pays dividends of $1,200 (12%/yr bond rate) at the end of each year. If the bond matures at 20 years, what is the approximate bond value at an interest rate of 11% per year, compounded annually?**

A. $ 8,245
B. $ 9,300
C. $10,800
D. $12,820

$V = 10{,}000$
$r = 12\%$
$A = 1200$
$n = 20$

$P = 1200(P|A, 11\%, 20) + F(P|F, 11\%, 20)$
$(7.96333) \qquad (0.12403)$

(10) D 2. **Douglas wishes to purchase a $1,000 bond from Jose who needs the money. There are 7 years remaining until the bond matures, and interest payments are made quarterly. Douglas decides to offer Jose $850 for the bond because he wants to earn exactly 8% per year compounded quarterly on the investment. What is the "effective" annual bond rate of interest?**

A. 9.10%
B. 5.28%
C. 6.60%
D. 1.30%

$P = Vr(P|A, i\%, n) + F(P|F, i\%, n)$

$i_{eff} = \left(1 + \frac{r}{m}\right)^m - 1$

$V = 1{,}000$
$P = 850$
$n = 28$
$i = 2\%$

$850 = 1000(r)(P|A, 2\%, 28) + 1000(P|F, 2\%, 28)$
$(21.28127) \qquad (0.57437)$

$r = 0.012952$

$i_{eff} = \left(1 + \frac{.012952}{4}\right)^4 - 1 = 0.013015$

$i_{eff} = \left(1 + \frac{\quad}{4}\right)^{4} - 1 = 0.015015$

P = 95000
r = 12% 3
n = 10

P = 95000
r = 3%
n = 10
i = ?
eff

P = 92000
F = 100000
r = .12
n = 10

(10) B 3. **One hundred $1,000 bonds having a bond rate of 12% per year payable quarterly are purchased for $95,000, kept for 10 years, and sold for $92,000. Determine the "effective" annual yield rate on the bond investment.**

A. 13.74%
B. 14.35%
C. 16.90%
D. 18.25%

$95000 = 12000(.03)(P|A, i, 10) + 92000(P|F, i,$

(10) C 4. **A $200,000 bond having a bond rate of 10% payable annually is purchased for $190,500 and kept for 5 years, at which time it is sold. How much should it sell for in order to yield a 8% effective annual return on the investment?**

P = 200,000
r = 10%

A. $177,425
B. $174,750
C. $171,250
D. $162,575

(10) B 5. **Upon graduation you decide to purchase a new car for $32,000 at a 6% per year compounded monthly rate for 5 years. You plan on paying the loan back with 60 equal monthly payments. How much are the monthly payments?**

A. $434
B. $620
C. $1,005
D. $1,790

(10) C 6. **Using the information from Question #5, what is the remaining balance after the 30th payment?**

A. $17,200
B. $22,900
C. $28,600
D. $31,680

(10) A 7. **Using the information from Question #5, what is the Payoff prior to making your 32nd payment.**

A. **$30,800**
B. **$22,900**
C. **$16,740**
D. **$ 6,140**

(10) D 8. **Using the information from Question #5, what portion of the 18th payment is principal?**

A. **$715**
B. **$618**
C. **$499**
D. **$120**

(10) A 9. **Diamond Crystal in Weatherford, Oklahoma is looking at a new bag filtration system to remove airborne pepper particles inside the production facility. The information below is for a filtration system from the U.S. Clean Air of America Corporation. MARR is 8%. Based on the information below what is the Present Worth of the proposed bag filtration system?**

First Cost =	**$50,000**
M&O Costs =	**$ 2,000**
Annual Benefit =	**$11,000**
Salvage Value =	**$12,000**
Useful Life =	**8 years**

A. **-$4,300**
B. **$ 0**
C. **$4,300**
D. **$8,200**

(10) C 10. **Based on the Present Worth calculation in Problem #9 what decision should Diamond Crystal make from an economic feasibility standpoint?**

A. **No decision can be made, not enough information**
B. **Accept the project based on Present Worth Analysis**
C. **Reject the project based on Present Worth Analysis**
D. **The company is indifferent**